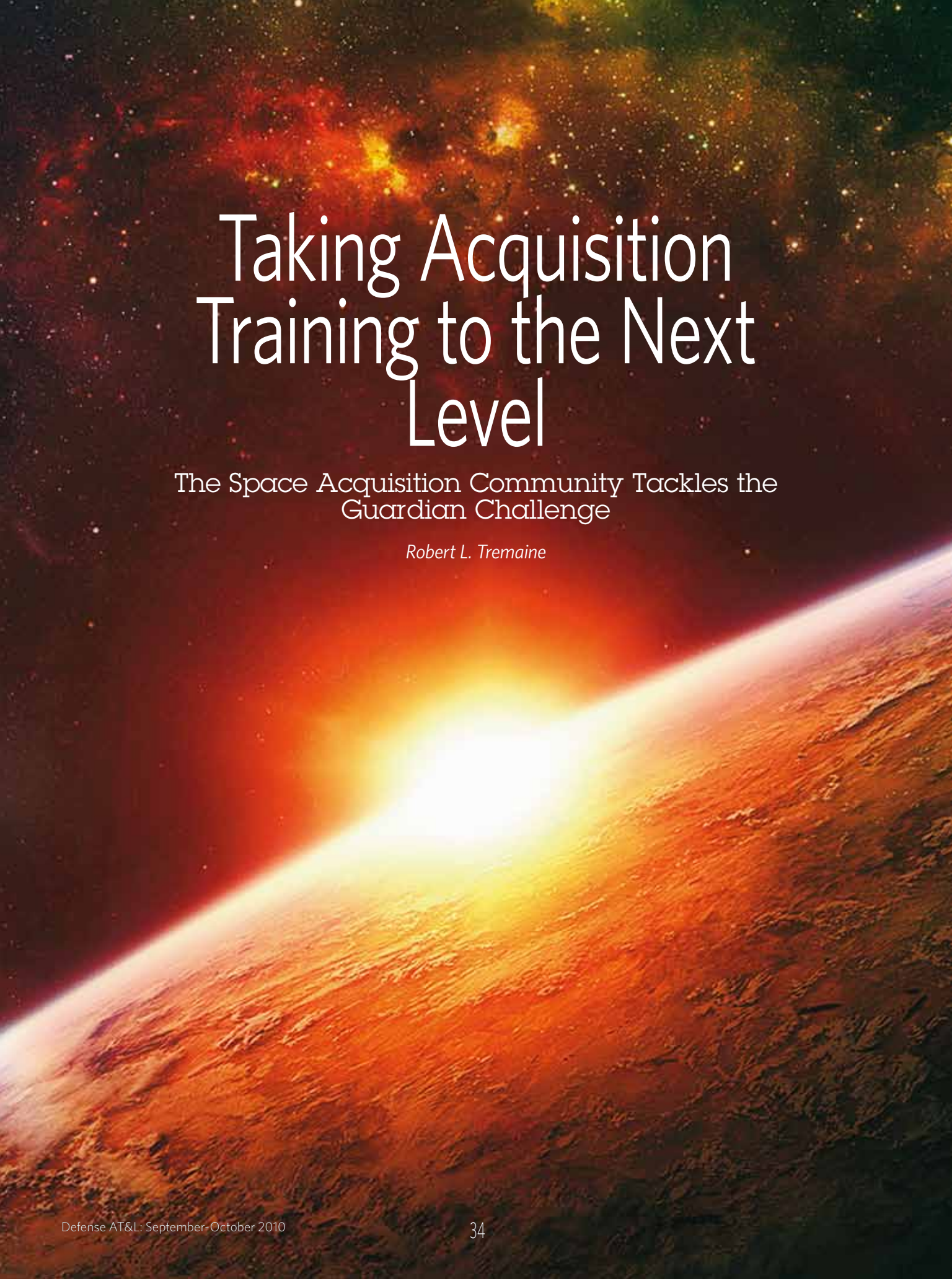

Taking Acquisition Training to the Next Level

The Space Acquisition Community Tackles the Guardian Challenge

Robert L. Tremaine

The Space and Missile Center (SMC) showed its acquisition mettle in late April of this year during an intensive two-and-a-half day event called the Guardian Challenge.

The Guardian Challenge

Two years ago, Air Force Space Command expanded its Guardian Challenge program (largely an operational-centric scenario-based exercise designed to test personnel's inherent leadership and functional expertise) to the acquisition community. AFSC's Headquarters felt all command-wide personnel should have an opportunity to demonstrate their talents—not only the operators but also the acquirers who deliver

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the crucial operational systems. Surprisingly, the space acquisition community previously lacked a competition exercise that tested them in the field.

SMC, joining in the Guardian Challenge again, selected six four-person teams to compete for the coveted distinction of first place in the challenge. Each of the six teams—composed of captains/majors and equivalent-ranking civilian government personnel—had members experienced in various levels of Defense Acquisition Workforce Improvement Act certifications. Program management, systems engineering, budgeting, cost estimating, and contracting were well represented.

Planning for the event actually started a couple of months earlier, when two key partners, the Defense Acquisition University and SMC, teamed up to produce a real-world challenge facing the space community today: how to best satisfy a shortage in satellite communications bandwidth. This was the first time DAU supported the event.

Based on lessons learned, this version of the Guardian Challenge needed to be more challenging and encompassing for its acquirers than in previous years. The DAU-SMC design team created a set of competition material rich in detail that would stimulate critical thinking. Aspects of the challenge—the "artifacts"— would also quickly situate and stretch the competitors' abilities and would ultimately represent a real-world space acquisition experience. The artifacts were:

- A robust space acquisition scenario
- Three viable satellite materiel options:
  - Option 1: Hosted payload on a commercial satellite (e.g., sharing space with other planned payloads)
  - Option 2: Dedicated pay-for-service commercial satellite
  - Option 3: Leased pay-for-service commercial satellite with an option to buy
- Competition timeline
- Competition instructions and rules of engagement.

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These artifacts were intended to quickly introduce the teams to the scenario and taper any competitive variances without inhibiting the teams' ability to innovate—an important tenet in the acquisition profession and decidedly one that DoD Instruction 5000.02 emphasizes. Each of these artifacts had also been carefully refined following a comprehensive beta test conducted just two weeks prior to the real contest. The beta test revealed a few shortcomings that inhibited game play, including time constraints, lack of a concept of operations, and the downside of a "planned" delayed release of the materiel options available (the development team initially felt that too much data too fast would overwhelm the competition teams). All these deficiencies were reconciled before competition execution day.

A Robust Space Acquisition Scenario

The satellite product-line-specific scenario was designed to trip a few intellectual switches. Each team would be responsible for developing a robust and innovative acquisition strategy that called for vital satellite services to fill a critical and urgent communications gap. When combined with the Air Force's Distributed Common Ground Station, more communications bandwidth would better enable the Air Force's Global Hawk unmanned aerial vehicles to provide intelligence, surveillance, and reconnaissance capabilities to the warfighter in the U.S. Central Command area of operations. Each team was also given a representative Central Command concept of operations that confirmed bandwidth demands had already exceeded available capacity. The concept of operations implied that the warfighters were forced to forfeit an operational advantage they had previously enjoyed. They could no longer fully exploit crucial imagery data. Worse, the effectiveness of combat operations in their area of responsibility could soon be at risk.

From start to finish, the pace of the competition would be very ambitious. From the time the competitors received the warning order on Tuesday at 12 p.m. to the time they delivered their presentation finale to the evaluators on Thursday at 8 a.m., time was recognized as a premium. Even though the competition was appropriately sized for the set timeframe, there was no occasion to be idle. The teams had to respond to a short fuse with little time to distill a lot of data. A critical analysis was essential. The teams had to (1) identify and mitigate programmatic risk (Part IA, worth 20 points), and (2) develop a comprehensive set of evaluation criteria (Part IB, worth 20 points) before they could narrow their selection of three available (given) options. Parts IA and IB were also expected to help narrow the teams' focus on the more critical elements early and ease them into the development of a more comprehensive acquisition strategy later. After they submitted their results for parts IA and IB to the evaluators, they would need to turn their attention to Part II (worth 60 points) and build a defendable acquisition strategy.

Part of the competition's success would depend on a thorough understanding of the competition instructions. As a result, SMC published a number of imperatives to safeguard game play, including:

- Rules of engagement that specified game expectations, team interactions, and taboos
- A well-understood communications plan that characterized all dialogue internal and external to the teams
- Specific scoring criteria and an accompanying evaluation rubric for all deliverables that clearly stated how the 100 points available would be awarded and under what conditions.

Game Day

On game day, the high energy level was apparent. Six teams were ready to play. Already in the hunt for the trophy, they had to overcome two major obstacles first—a tight timeline and too much data.

Aside from their inherent level of expertise, the competition teams had some additional help through virtual access to the *Defense Acquisition Guidebook* (*DAG*) and other very useful internet links; however, the teams were prohibited from seeking advice and counsel from other, more experienced people—which was to level the playing field. This decision created some intrinsic knowledge limitations. As a result, the teams were armed with just what they could deduce themselves and what they could supplement from the net. They had no secret weapons—just each other.

Junior personnel had an opportunity to demonstrate their collective mettle and test drive their acquisition skills across the entire acquisition integrated framework.

The teams received their warning order simultaneously at high noon on day one at their respective locations. Five teams were operating in conference rooms spread across SMC's Los Angeles Air Force Base, and one team was operating out of SMC's Kirtland Air Force Base site. The teams had just a couple of hours to digest the data and could generate up to five questions on any aspect of the game—from basic clarification questions to more detailed questions about any of the material provided. As part of the original plan, DAU and SMC established a command and control post to field the questions and guide the competition. Within two hours, questions started to roll in—questions like:

- "Is a fiscal year 2013 PB [*President's Budget*] and updated fiscal year 2014 POM [*program objective memorandum*] funding profile available for consideration with the criticality of the program, or are we to assume all deltas in future years will be approved in the future POM submittals?"
- "If a launch is delayed because of late arrival of GFE [*government-furnished equipment*], the commercial payloads may need to be compensated for lost revenues. What is the monthly dollar figure for slipping a launch for each of the commercial satellites manifested (Intelsat-19, Insat-3E, SES New Skies NSS-21, and Intelsat-20)?"

The teams immediately quantified some of the unknown variables and assessed them upfront. Understanding and reconciling the operational requirement was crucial, but their ability to carefully manage the ongoing uncertainty—a constant in the acquisition profession—could become a competitive advantage. The more probing questions the team asked to mitigate most of the uncertainty, the better acquisition strategy they could build as they pressed ahead.

Results

The teams quickly dove deeply into the data stack. What the teams were able to achieve in a condensed amount of time was extremely notable—a testimony to their determination. In the end, and after performing the cost-schedule and performance trades, each team selected the same option—a dedicated pay-for-service satellite versus option 1 (sharing real estate on another satellite [e.g., hosted payload]) or option 3 (leasing a satellite with an option to buy). In Part IA of the competition, the team had to list three to five key programmatic risks for all the options. The risks associated with their final selection would resurface in Part II and require a more thorough assessment.

From a competitive perspective, what differentiated the teams had more to do with their:

- Acquisition approach (from capability needs to key performance parameters)
- Programming, planning, budgeting, and execution strategy
- Detailed integrated schedules
- Identification of major programmatic risks and key mitigation strategies within the context of the risk cube

Table 1: **Rating the Scenario**

Participants: How Would You Rate the Scenario?	% Agree, More than Agree, Strongly Agree
Scenario was realistic	96%
Relevant and appropriate	100%
Exercise instructions were clear and straightforward	58%
Correctly sized for the time allotted	75%
Scenario stretched me intellectually	100%
The Artifacts provided were adequate	88%

Evaluators: How Would You Rate the Scenario?	% Agree, More than Agree, Strongly Agree
Scenario was realistic	88%
Relevant and appropriate	100%
Exercise instructions were clear and straightforward	88%
Correctly sized for the time allotted	88%
Scenario stretched the participants intellectually	100%
The Artifacts provided were adequate	100%

- Systems engineering approach and associated processes
- Assessment and reconciliation of the major design considerations
- Other programmatic considerations, including coordination with external stakeholders across the enterprise, harvesting existing technology from cancelled programs, and potential integration with other space command and control mission suites.

Looking back at the dynamic basis of the competition and the end result, all six teams deserve a lot credit. Each team focused its efforts with considerable intensity, even though the pressure did not let up once the competition began.

Table 2: **Rating Participation**

Participants: How Would You Rate Your Participation?	% Agree, More than Agree, Strongly Agree
Tested my fundamental acquisition knowledge	96%
Verified my ability to apply key acquisition principles	96%
Reinforced my strengths required by area of expertise	92%
Uncovered my training needs in acquisition life cycle	88%
Gave me a better feel for typical acquisition issues	92%

Evaluators: Observations on Participants	% Agree, More than Agree, Strongly Agree
Tested their fundamental acquisition knowledge	100%
Verified their ability to apply key acquisition principles	100%
Reinforced their strengths required by area of expertise	88%
Uncovered their training needs in acquisition life cycle	88%
Gave them a better feel for typical acquisition issues	88%

Ultimately, the team from Kirtland Air Force Base representing the Space Development and Test Wing won the honors and bragging rights this year.

Feedback

After the competition ended, the development team launched a survey that sought unvarnished feedback from each team member as well as the eight senior evaluators. Their views mattered, as they represented the goodness of this event, what everyone had to say about the ride, and whether or not SMC's participation in the Guardian Challenge should continue.

Table 1 shows how the participants individually rated the scenario in contrast to the evaluators' views. (Additional choices, not shown in the tables, were "Strongly Disagree" and "Disagree.") Aside from the exercise instructions—which created a little more fog than anticipated—and the limited time available to complete the tasks, the ratings were noticeably high. Views from the eight individual evaluators were generally consistent with the competitors' views. The limited time constraints appeared to create some burden for both the teams and the evaluators, although the evaluators didn't witness as much instructional fog as the teams experienced.

Table 2 shows how the individual participants and evaluators rated the participants' general performance. The ratings were very consistent between both groups. In the narrative section of the survey, both the individual participants and evaluators amplified the need for more training. One individual even remarked that he needed to treat DAU training courses more seriously. A well-known fact—training in operational exercises has always been the key ingredient to their success in real-world situations. In a similar fashion, "training like you fight and fighting like you train" in the acquisition profession could possibly promote more successful outcomes and maybe even boost performance.

Table 3 captures the views of the competition itself. Both the competitors and evaluators rated each category with the same consistency. Although the participants felt the competition highlighted the team functional dependencies and other key team dynamics, the evaluators felt the challenge demonstrated a little less functional dependency. The evaluators also did not see the teams coalesce as much as the teams saw themselves coalesce.

Table 3: **What the Competition Demonstrated**

Participants: The competition demonstrated:	% Agree, More than Agree, Strongly Agree
The diverse capabilities of my organization	96%
Our functional dependencies	100%
Our functional strengths	100%
Our team's competencies	100%
The effectiveness of our team	100%
How well we performed under stress	100%
How well we coalesced as a team	100%
The application of key system acquisition processes	96%

Evaluators: The competition demonstrated:	% Agree, More than Agree, Strongly Agree
The diverse capabilities of SMC's organization	100%
SMC's functional dependencies	88%
SMC's functional strengths	100%
SMC team's competencies	100%
The effectiveness of SMC team	100%
How well SMC performed under stress	100%
How well SMC coalesced as a team	88%
SMC's application of key system acquisition processes	88%

A Meaningful Training Event

At the first glance, an acquisition competition conducted as part of an operationally centric Guardian Challenge exercise might appear to be a little unusual; however, the very prospect can provide some significant dividends in the form of experience gains. This competition showed just that.

What else made the competition relevant and meaningful? Many junior personnel had an opportunity to demonstrate their collective mettle and test drive their acquisition skills across the entire acquisition integrated framework—within their own product line at their own base alongside their own colleagues. With more of these type of engagements complemented by other, more focused training, SMC might be able to help overcome some the experience limitations identified in a March 2010 Government Accountability Office report that indicated "insufficient numbers of experienced space acquisition personnel and inadequate continuity of personnel in project management positions." Perhaps exercises like the Guardian Challenge can help confirm other critical acquisition functions that need to be strengthened to overcome these very real challenges.

Something like an acquisition competition in the context of a Guardian Challenge-like event just might take acquisition training to the next level.

So, should the acquisition community continue to participate in future Guardian Challenge exercises? The answer is indeed "yes" and the reason can best be summarized by one competitor's survey comment (echoed by many others): "This is definitely a rewarding experience. The given scenario tested my acquisition knowledge and skill sets." This competition also validated the importance of Defense Acquisition Workforce Improvement Act certification in a real-world scenario. What students demonstrate in the classroom is just one component; what they can apply in the field is even more significant.

In retrospect, the operational and acquisition communities indeed seem to share many of the same training imperatives after all—which an expanded Guardian Challenge set out to prove. If the Department of Defense moves toward implementing qualification standards for acquirers much like the operational community has in place today, events like the Guardian Challenge can create experience breakthroughs for the acquisition community since they simulate real-world scenarios that acquirers face every day within their own organizations. While the Guardian Challenge is unique to AFSPC, other materiel developers across the DoD enterprise might be well served by demonstrating their mettle in similarly constructed competitions. In the long run, nothing shows an organization's preparedness and key competencies like scenario-based competitions, and something like an acquisition competition in the context of a Guardian Challenge-like event just might take acquisition training to the next level.

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